

Attorney Docket No.: 2003-0056-01  
USSN 10/609,223

**In the Claims:**

1. (currently amended) A laser monitoring system, comprising:
  - a spectrometer meter adapted to measure an unknown bandwidth of a spectrum of light emitted from the laser, comprising:
    - an optical bandwidth measuring unit adapted to provide as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;
    - a reported parameter computing unit adapted to compute a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:
$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$
wherein the RP and MP are a different type of parameter and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of [a] known value[d] of RP.
2. (original) The apparatus of claim 1 further comprising:
  - the optical bandwidth measuring unit comprises an interferometric or dispersive optical instrument.
3. (original) The apparatus of claim 1 further comprising:
  - the optical bandwidth measuring unit comprises an etalon.
4. (original) The apparatus of claim 2 further comprising:
  - the optical bandwidth measuring unit comprises an etalon.
5. (original) The apparatus of claim 1 further comprising:
  - RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .
6. (original) The apparatus of claim 2 further comprising:
  - RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .
7. (original) The apparatus of claim 3 further comprising:

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RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

8. (original) The apparatus of claim 4 further comprising:

RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

9. (original) The apparatus of claim 1 further comprising:

RP is at EX% and MP is at FWXM.

10. (original) The apparatus of claim 2 further comprising:

RP is at EX% and MP is at FWXM.

11. (original) The apparatus of claim 3 further comprising:

RP is at EX% and MP is at FWXM.

12. (original) The apparatus of claim 4 further comprising:

RP is at EX% and MP is at FWXM.

13. (currently amended) A spectrometer for measuring an unknown bandwidth of a spectrum of light, comprising:

an optical bandwidth measuring unit adapted to provide as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;

a reported parameter computing unit adapted to compute a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:

$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$

wherein the RP and MP are a different type of parameter and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of  $[\lambda]$  known value  $[\lambda]$  of RP.

14. (original) The apparatus of claim 13 further comprising:

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the optical bandwidth measuring unit comprises an interferometric or dispersive optical instrument.

15. (original) The apparatus of claim 13 further comprising:  
the optical bandwidth measuring unit comprises an etalon.

16. (original) The apparatus of claim 14 further comprising:  
the optical bandwidth measuring unit comprises an etalon.

17. (original) The apparatus of claim 13 further comprising:  
RP is at  $F'WXM$  and MP is at  $FWX'M$ , wherein  $X \neq X'$ .

18. (original) The apparatus of claim 14 further comprising:  
RP is at  $FWXM$  and MP is at  $FWX'M$ , wherein  $X \neq X'$ .

19. (original) The apparatus of claim 15 further comprising:  
RP is at  $FWXM$  and MP is at  $FWX'M$ , wherein  $X \neq X'$ .

20. (original) The apparatus of claim 16 further comprising:  
RP is at  $FWXM$  and MP is at  $F'WX'M$ , wherein  $X \neq X'$ .

21. (original) The apparatus of claim 13 further comprising:  
RP is at  $EX\%$  and MP is at  $F'WXM$ .

22. (original) The apparatus of claim 14 further comprising:  
RP is at  $EX\%$  and MP is at  $FWXM$ .

23. (original) The apparatus of claim 15 further comprising:  
RP is at  $EX\%$  and MP is at  $FWXM$ .

24. (original) The apparatus of claim 16 further comprising:

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RP is at EX% and MP is at FWXM.

25. (currently amended) A laser control system, comprising:

spectrometer means for measuring an unknown bandwidth of a spectrum of light emitted from the laser, comprising:

an optical bandwidth measuring means for providing as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;

a reported parameter computing means for computing a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:

$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$

wherein the RP and MP are a different type of parameter and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of [a] known value[d] of RP.

26. (original) The apparatus of claim 25 further comprising:

the optical bandwidth measuring means comprises an interferometric or dispersive optical instrument.

27. (original) The apparatus of claim 25 further comprising:

the optical bandwidth measuring means comprises an etalon.

28. (original) The apparatus of claim 26 further comprising:

the optical bandwidth measuring means comprises an etalon.

29. (original) The apparatus of claim 25 further comprising:

RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

30. (original) The apparatus of claim 26 further comprising:

RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

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31. (original) The apparatus of claim 27 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .
32. (original) The apparatus of claim 28 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .
33. (original) The apparatus of claim 25 further comprising:  
RP is at EX% and MP is at FWXM.
34. (original) The apparatus of claim 26 further comprising:  
RP is at EX% and MP is at FWXM.
35. (original) The apparatus of claim 27 further comprising:  
RP is at EX% and MP is at FWXM.
36. (original) The apparatus of claim 28 further comprising:  
RP is at EX% and MP is at FWXM.
37. (currently amended) A spectrometer for measuring an unknown bandwidth of a spectrum of light, comprising:  
an optical bandwidth measuring means for providing as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;  
a reported parameter computing means for compute a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:  
$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$
  
wherein the RP and MP are different types or parameters and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of [a] known value[[d]] of RP.
38. (original) The apparatus of claim 37 further comprising:

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the optical bandwidth measuring means comprises an interferometric or dispersive optical instrument.

39. (original) The apparatus of claim 37 further comprising:  
the optical bandwidth measuring means comprises an etalon.

40. (original) The apparatus of claim 38 further comprising:  
the optical bandwidth measuring means comprises an etalon.

41. (original) The apparatus of claim 37 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

42. (original) The apparatus of claim 38 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

43. (original) The apparatus of claim 39 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

44. (original) The apparatus of claim 40 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

45. (original) The apparatus of claim 37 further comprising:  
RP is at EX% and MP is at FWXM.

46. (original) The apparatus of claim 38 further comprising:  
RP is at EX% and MP is at FWXM.

47. (original) The apparatus of claim 39 further comprising:  
RP is at EX% and MP is at FWXM.

48. (original) The apparatus of claim 40 further comprising:

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RP is at EX% and MP is at FWXM.

49. (currently amended) A method for controlling a laser, comprising:
- utilizing a spectrometer means for measuring an unknown bandwidth of a spectrum of light emitted from the laser, by:
  - providing a measurement of a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;
  - computing a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:
$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$
wherein the RP and MP are a different type of parameter and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of [a] known value[[d]] of RP.

50. (original) The method of claim 49 further comprising:
- utilizing an interferometric or dispersive optical instrument for measuring the optical bandwidth.

51. (original) The method of claim 49 further comprising:
- utilizing an etalon for measuring the optical bandwidth.

52. (original) The apparatus of claim 50 further comprising:
- utilizing an etalon for measuring the optical bandwidth.

53. (original) The method of claim 49 further comprising:
- RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

54. (original) The method of claim 50 further comprising:
- RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

55. (original) The method of claim 51 further comprising:

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RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

56. (original) The method of claim 52 further comprising:

RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

57. (original) The method of claim 49 further comprising:

RP is at EX% and MP is at FWXM.

58. (original) The method of claim 50 further comprising:

RP is at EX% and MP is at FWXM.

59. (original) The method of claim 51 further comprising:

RP is at EX% and MP is at FWXM.

60. (original) The method of claim 52 further comprising:

RP is at EX% and MP is at FWXM.

61.(currently amended) A method for measuring an unknown bandwidth of a spectrum of light, comprising:

utilizing an optical bandwidth measuring means to provide as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;

computing a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:

$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$

wherein the RP and MP are different types or parameters and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of [a] known value[[d]] of RP.

62. (original) The method of claim 61 further comprising:



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utilizing an interferometric or dispersive optical instrument to provide the optical bandwidth measurement.

63. (original) The method of claim 61 further comprising:  
utilizing an etalon to provide the optical bandwidth measurement.

64. (original) The method of claim 62 further comprising:  
utilizing an etalon to provide the optical bandwidth measurement.

65. (original) The method of claim 61 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

66. (original) The apparatus of claim 62 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

67. (original) The apparatus of claim 63 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

68. (original) The apparatus of claim 64 further comprising:  
RP is at FWXM and MP is at FWX'M, wherein  $X \neq X'$ .

69. (original) The apparatus of claim 61 further comprising:  
RP is at EX% and MP is at FWXM.

70. (original) The apparatus of claim 62 further comprising:  
RP is at EX% and MP is at FWXM.

71. (original) The apparatus of claim 63 further comprising:  
RP is at EX% and MP is at FWXM.

72. (original) The apparatus of claim 64 further comprising:

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RP is at EX% and MP is at FWXM.